

IN THE CLAIMS

Please cancel Claims 1-5, without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claim 7, and add new Claims 13-15 to read as follows.

1-5. (Canceled)

6. (Withdrawn) A manufacturing method for manufacturing a piezoelectric structure having a vibrational plate and a piezoelectric film, said method comprising:

a step of forming a second oxide layer on a silicon substrate, the silicon substrate having a monocrystal silicon layer on a silicon layer with an oxide layer interposed therebetween;

a step of forming a piezoelectric film of a single orientation crystal or monocrystal structure on the second oxide layer; and

a step of forming an upper electrode on the piezoelectric film.

7. (Currently Amended) A liquid ejecting head comprising:

a main assembly substrate portion having a pressure chamber in fluid communication with a liquid ejection outlet; and

a piezoelectric structure provided for said pressure chamber,

said piezoelectric structure including:

a vibrational plate; and

a piezoelectric film,

said vibrational plate including a main layer of a monocrystal material or a main layer of a monocrystal material containing an element which is different from an element constituting the monocrystal material, and oxide layers which sandwich said main layer ~~said vibrational plate being sandwiched by oxide layers~~, and

said piezoelectric film having a single orientation crystal or monocrystal structure.

8. (Previously Presented) A liquid ejecting head according to Claim 7, wherein a film thickness D1 of said vibrational plate and film thicknesses d1, d2 of said oxide layers satisfy $d1+d2 \leq D1$.

9. (Previously Presented) A liquid ejecting head according to Claim 8, wherein a film thickness D2 of said piezoelectric film satisfies $d1+d2+D1 \leq 5 \times D2$.

10. (Previously Presented) A liquid ejection head according to Claim 7, wherein a composition of said piezoelectric film is one of PZT, PMN, PNN, PSN, PMN-PT, PNN-PT, PSN-PT, and PZN-PT, and said piezoelectric film has a single layer structure or a laminated structure of different compositions.

11. (Previously Presented) A liquid ejection head according to Claim 7, wherein said oxide layers comprise at least one of SiO₂, YSZ, Al₂O₃, LaAlO₃, Ir₂O₃, MgO, SRO, and STO.

12. (Withdrawn) A manufacturing method for a liquid ejecting head including a liquid ejection outlet, a main body substrate portion having a pressure chamber in fluid communication with the liquid ejection outlet and having an opening, and a piezoelectric structure connected so as to plug the opening, said manufacturing method comprising:

a step of forming a second oxide layer on a silicon substrate, the silicon substrate having a monocrystal silicon layer on a silicon layer with an oxide layer interposed therebetween;

a step of forming a piezoelectric film of a single orientation crystal or monocrystal structure on the second oxide layer;

a step of separating the piezoelectric film into a plurality of portions;

a step of forming an upper electrode on the piezoelectric film; and

a step of forming the pressure chamber.

13. (New) A liquid ejection head according to Claim 7, wherein said element which is different than the element constituting the monocrystal material is Si.

14. (New) A liquid ejection head according to Claim 13, wherein said main assembly substrate portion is made of Si, and is contacted to one of said oxide layers.

15. (New) A liquid ejection head according to Claim 14, wherein said piezoelectric film is disposed at a side of the other of said oxide layers.